

FIG. 1

FIG. 2

INSTRUCTION POINTER	REDUNDANCY PREDICTOR	INSTRUCTION	COMMENTS
341B	NOT REDUNDANT	MOVE AX, VALUE1	:Write to AX
341D	NOT REDUNDANT	ADD BX, VALUE2	
3420	REDUNDANT	ADD AX, BX	:Use AX and Write to AX
3422	NOT REDUNDANT	CMP DX, CX	
3424	NOT REDUNDANT	JNL BRANCH2	
3426	NOT REDUNDANT	MOV AX, CX	:Write to AX Without Using Previous Value

FIG. 4

INSTRUCTION	WRITTEN ON	USED	USE COUNT	INT. INSTR.	PRIORITY
ADD AX, BX	NOT WRITTEN ON	NOT USED	0	D.C.	LOW
ADD BX, VALUE2	NOT WRITTEN ON	USED	1	1	HIGH
MOV AX, VALUE1	WRITTEN ON	USED	1	2	HIGH
	WRITTEN ON	NOT USED			REDUNDANT

31	INSTRUCTION	WRITTEN ON	USED	PRIORITY	8
	MOV AX, VALUE1	NOT WRITTEN ON	NOT USED	LOW	

**FIG. 3A**

16 18 20 22

32	31	INSTRUCTION	WRITTEN ON	USED	PRIORITY	8
		ADD BX, VALUE2	NOT WRITTEN ON	NOT USED	LOW	
		MOV AX, VALUE1	NOT WRITTEN ON	NOT USED	LOW	

**FIG. 3B**

16 18 20 22

33	32	31	INSTRUCTION	WRITTEN ON	USED	PRIORITY	8
			ADD AX, BX	NOT WRITTEN ON	NOT USED	LOW	
			ADD BX, VALUE2	NOT WRITTEN ON	USED	HIGH	
			MOV AX, VALUE1	WRITTEN ON	USED	HIGH	

**FIG. 3C**

16 18 20 22

34	33	32	31	INSTRUCTION	WRITTEN ON	USED	PRIORITY	8
				CMP DX, CX	WRITTEN ON	USED	HIGH	
				ADD AX, BX	NOT WRITTEN ON	NOT USED	LOW	
				ADD BX, VALUE2	NOT WRITTEN ON	USED	HIGH	
				MOV AX, VALUE1	WRITTEN ON	USED	HIGH	

**FIG. 3D**

16 18 20 22

35	34	33	32	31	INSTRUCTION	WRITTEN ON	USED	PRIORITY	8
					JNL BRANCH2	NOT WRITTEN ON	NOT USED	LOW	
					CMP DX, CX	WRITTEN ON	USED	HIGH	
					ADD AX, BX	NOT WRITTEN ON	NOT USED	LOW	
					ADD BX, VALUE2	NOT WRITTEN ON	USED	HIGH	
					MOV AX, VALUE1	WRITTEN ON	USED	HIGH	

**FIG. 3E**

16 18 20 22

	INSTRUCTION	WRITTEN ON	USED	PRIORITY
36	MOV AX, CX	NOT WRITTEN ON	NOT USED	LOW
35	JNL BRANCH2	NOT WRITTEN ON	NOT USED	LOW
34	CMP DX, CX	WRITTEN ON	USED	HIGH
33	ADD AX, BX	WRITTEN ON	NOT USED	REDUNDANT
32	ADD BX, VALUE2	NOT WRITTEN ON	USED	HIGH
31	MOV AX, VALUE1	WRITTEN ON	USED	HIGH

**FIG. 3F**

	INSTRUCTION	WRITTEN ON	USED	PRIORITY
36	MOV AX, CX	NOT WRITTEN ON	NOT USED	LOW
35	JNL BRANCH2	NOT WRITTEN ON	NOT USED	LOW
34	CMP DX, CX	WRITTEN ON	USED	HIGH
33	ADD AX, BX	WRITTEN ON	NOT USED	REDUNDANT
32	ADD BX, VALUE2	NOT WRITTEN ON	USED	HIGH

**FIG. 3G**

	INSTRUCTION	WRITTEN ON	USED	PRIORITY
36	MOV AX, CX	NOT WRITTEN ON	NOT USED	LOW
35	JNL BRANCH2	NOT WRITTEN ON	NOT USED	LOW
34	CMP DX, CX	WRITTEN ON	USED	HIGH
33	ADD AX, BX	WRITTEN ON	NOT USED	REDUNDANT

**FIG. 3H**

	INSTRUCTION	WRITTEN ON	USED	PRIORITY
36	MOV AX, CX	NOT WRITTEN ON	NOT USED	LOW
35	JNL BRANCH2	NOT WRITTEN ON	NOT USED	LOW
34	CMP DX, CX	NOT WRITTEN ON	USED	HIGH

**FIG. 3I**

	INSTRUCTION	WRITTEN ON	USED	PRIORITY
36	MOV AX, CX	NOT WRITTEN ON	NOT USED	LOW
35	JNL BRANCH2	NOT WRITTEN ON	NOT USED	LOW

**FIG. 3J**

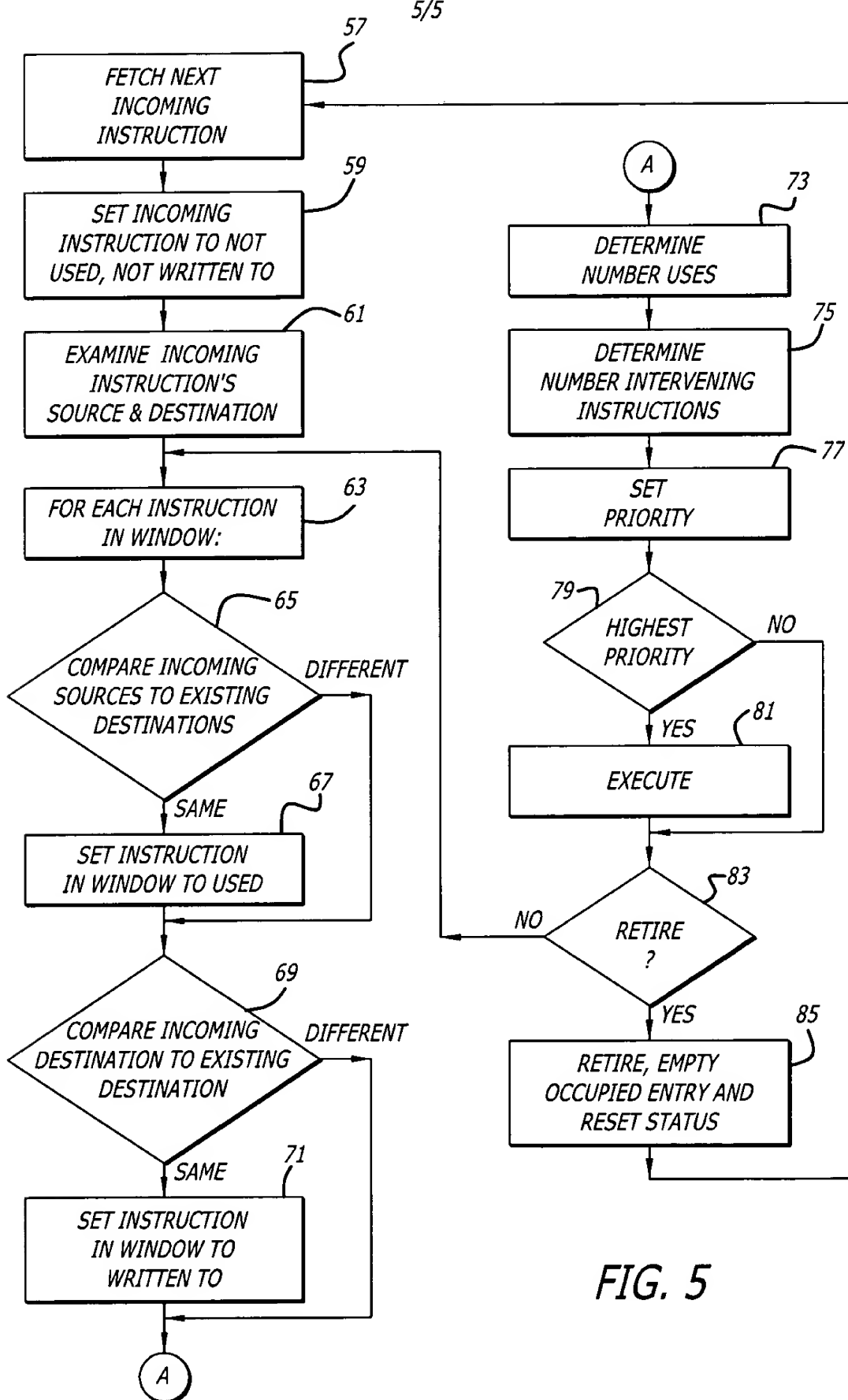


FIG. 5